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# Formulation & Evaluation of Ginger Macerated Honey Base Herbal Cough Syrup

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**Abstract**: Background: Clinical handoff is a crucial process in nursing practice, ensuring the accurate transfer of patient information, responsibility, and care continuity between healthcare professionals. Effective handoff communication minimizes errors, enhances patient safety and improves healthcare outcomes.

Methods & Materials: A true experimental pre -test post-test research design was conducted at Apollo Hospitals, Chennai, among 100 staff nurses' selected by convenient sampling technique. After obtaining the setting permission and informed consent from participants, data was collected using pretested and validated tools such as background variables proforma of staff nurses, structured knowledge questionnaire was developed by the investigator through Google forms in what's app and e- mails to assess the knowledge on patient handover using Clinical Hand off and practice checklist developed by the investigator through observed structured clinical examination (OSCE) to assess the practice on patient handover using Clinical Hand off. It consists of 10 items in each station. The data regarding background variables and pre-test assessment of knowledge on patient handover was obtained on day 1. Then post- test knowledge and practice was conducted on the day 6. The collected data were analysed using descriptive and inferential statistics.

Results: The statistically significant increase in mean knowledge scores (from 15.08 to 21.85; p < 0.001) confirms that the training not only enhanced understanding but also translated into improved clinical performance. All 100 staff nurses scored above 30, indicating that 100% of participants demonstrated adequate clinical handoff practices following the intervention. This reflects a high level of compliance and understanding of proper handoff procedures among the nursing staff.

Conclusion: Targeted educational interventions significantly enhance both the knowledge and practice of staff nurses regarding clinical handoff, ultimately contributing to safer patient care and improved communication in healthcare settings.

Keywords: Antitussive, Maceration, Herbal Formulation, Quality Control Test

#### I. INTRODUCTION

Herbal plants and formulations are used for the many types of diseases like cough syrup and many more other diseases. In cough syrup many types of herbal plants are used, for example ginger, tulsi, honey, clove. In that whole plants are used for making herbal medicine since a many years. Herbal formulations are most commonly used in development as well as developing countries as health care aid.

Herbal syrup is defined as the prepared and combination and concentration decoction with Honey sugar. Nature has been a source of medicinal agent for thousands of year, and an impressive number of modern drugs have been isolated from natural resources, particularly plants and with many based on their use in traditional medicine. Now a days, herbal remedies are commonly used for treatment of cough . also the herbal drug as well as herbal formulation are playing important role in various type of cough . In present days, therapies like cough suppressant are used for cough . The antitussive agent gives only symptomatic relief. There agent are contraindicated in asthma.

1) Herbal plant and formulation are used for many types of disease like cough syrup many type and other disease treatment. In these herbal cough syrup include many types of herbal plant is used as like Ashwagandha, turmeric, tulsi, that all herbal plant are use for making herbal cough syrup.

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2) These harbal cough syrup is a liquid dosage form of medication and oral route of administration.

3) The herbal syrup is very prominent delivery vehicle use for the anti tissue medication because they give more soothing to swallow than the tablet and capsule. This syrup is quickly absorbed as well as not having any type of side effect.

4) This study goal is to present, analysis and research, the role of herbal ingredient such as

### Literature Review: -

1. WHO: Radix Althaeae. Who Monographs On Selected Medicinal Plants Vol 2. Geneva, World Health Organization, 2004.

2. ESCOP: Althaeae Radix Marshmallow Root; In European Scientific Co Operation On Phytotherapy (Ed): ESCOP Monographs: The Scientific Foundation For Herbal Medicinal Products Stuttgart, Thieme, 2003, Pp 32-35.

3. Kumar Et Al: (2017) Further Described Marshmallow Roots As Containing Flavonoids (Such As Kaempferol) And Phenolic Acid, Which Contribute To Antioxidant Activity

4. Duke (2002) Summarized Traditional Applications, Emphasizing Its Demulcent (Soothing) And Emollient (Moisturizing) Properties. Modern Clinical Observation Suggest Marshmallow Root May Help In Managing Dry Cough, Gastritis And Skin Inflammation (Wagner Et Al., 1989).

5. Kraft (1999) Noted That The High Mucilage Content Creates A Protective Layer Over Irritated Mucosa, Particularly Effective In Cases Of Dry Cough And Pharyngitis. Clinical Data Suggest Symptom Relief Within Days Of Marshmallow Based Syrup Use

Aim And Objective:

Aim: Formulation And Evaluation Of Herbal Cough Syrup.

Objective Of the Study:

- 1. soothing throat irritation
- 2. reducing inflammation
- 3. natural remedy for respiratory issues
- 4. relieving cough symptoms
- 5. It can help to loosen and expel mucus from the lung, thus providing relief from congestion
- 6. It can reduce coughing and help you sleep better.
- 7. It is a natural and safe alternative to prescription medication.

8. Cough medicines or cough syrups aim either to suppress a dry cough or to help you to cough up the phlegm (muscus) of a chesty cough when you have a URTI

9. To formulate a natural, honey-based cough syrup using maceration techniques with selected medicinal herbs, and to evaluate its physicochemical properties, stability, and effectiveness as a herbal remedy for relieving cough

Types of Cough

Mainly there are two types of cough, which are classifies as follows

□ Wet cough

🗆 Dr	y cou	ıgh
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DRY COUGH	WET COUGH
Productive and effective cough.	Non effective and infective cough.
It expels secretion mucous or foreign material from	It expels secretion or mucous from
respiratory tract.	lungs.
The main purpose of wet cough is to remove the foreign	Dry cough is chromic in nature and it is caused by dry
matter or mucous.	inrritation smoke or dust.
From respiratiory tract by which inspection is caused.	

Table 1:- types of cough

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Classification of cough:

SIR	TYPES OF COUGH	PROPERTIES		
NO				
1.	Acute cough	Not more than three week's duration		
2	Chronic cough	More than three week's		
3	Dry cough	No mucous or secretion		
4	Wet cough	With mucous or secretion		
5	Cough from chest and throat	Productive or non- productive		
6	Paroxysmal cough	Spasmodic and recurrent		
7	Bovine cough	Soundless cough due to paralysis or larynx		
8	Psychogenic cough	Self-conscious activity of the patient to draw		
		attention		

Table 2:- classification of coug

Cause of Cough :

A cough can have many possible causes, which can be classified into common and less common categories: Common Causes:

1. Infections:

Common cold Flu

COVID-19

Bronchitis Pneumonia

2. Allergies:

Pollen, dust mites, pet dander

3. Asthma:

Often involves wheezing and shortness of breath

4. Postnasal Drip:

Mucus from the nose or sinuses draining into the throat

5. Gastroesophageal Reflux Disease (GERD):

Stomach acid backing up into the esophagus

6. Smoking:

Irritates the airways and causes chronic cough

7. Medications:

ACE inhibitors (used for high blood pressure) can cause persistent cough Less Common Causes:

Chronic obstructive pulmonary disease (COPD) Lung cancer

Tuberculosis (TB) Heart failure

Antitussive :

An antitussive is a type of medication used to suppress or relieve coughing. It's commonly used to treat dry, non-productive coughs—those that don't bring up mucus.

Types of Antitussives

1. Central Acting Antitussives

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These act on the cough center in the brain (medulla) to suppress the cough reflex. Opioid Antitussives:

Codeine: Effective but can cause drowsiness, constipation, and addiction.

Hydrocodone: Stronger than codeine, used in severe cases.

Side effects: Drowsiness, nausea, respiratory depression, dependence.

Non-opioid Antitussives:

Dextromethorphan (DXM): Common in OTC cough syrups (e.g., Robitussin, Delsym). Benzonatate: Numbs the throat and lungs, reducing the cough reflex (e.g., Tessalon Perles). Side effects: Dizziness, nausea, hallucinations at high doses (especially DXM).

2. Peripheral Acting Antitussives

These reduce the sensitivity of cough receptors in the respiratory tract. Examples: Menthol, Honey, Guaifenesin (though primarily an expectorant). Indications

Dry, irritating, or non-productive coughs Coughs interfering with sleep

Coughs due to cold, flu, bronchitis, or laryngitis (if non-productive) Contraindications

Productive cough (unless causing significant discomfort or sleep disturbance) Asthma, COPD (some antitussives can worsen these)

Children under 4-6 years (varies by medication and guideline)

Expectorant :

An expectorant is a type of medication or substance that helps clear mucus and other secretions from the airways, lungs, bronchi, and trachea (the respiratory tract). Its primary purpose is to make coughing up phlegm easier, aiding in clearing the respiratory passages and improving breathing.

How Expectorants Work:

Expectorants work by increasing the water content in mucus, which: Decreases mucus thickness.

Makes it easier to cough up and expel.

Helps clear mucus buildup in conditions like bronchitis, the common cold, and other respiratory infections.

Common Expectorants:

1. Guaifenesin (most widely used)

Found in many over-the-counter (OTC) products such as Mucinex and Robitussin. Often combined with cough suppressants, decongestants, or antihistamines.

2. Ipecacuanha (less commonly used now)

Historically used but now less favored due to side effects.

Indications:

Acute or chronic bronchitis Upper respiratory tract infections

Chronic obstructive pulmonary disease (COPD)

Asthma (in some cases, for mucus clearance) Pneumonia (as supportive therapy)

Dosage and Administration:

Usually taken orally as a tablet, syrup, or liquid.

Should be taken with plenty of water to help loosen mucus.

Side Effects:

Nausea or vomiting Dizziness Headache

Rash (rare)

Precautions:

Use cautiously in patients with chronic cough due to smoking, asthma, or emphysema. Not recommended for long-term use without a doctor's advice.

Pregnant or breastfeeding women should consult a physician.

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Let me know if you'd like a comparison between expectorants and other respiratory drugs like mucolytics or

Plan Of Work: The present proposed research work is planned as follows:

Literature review  $\downarrow$ Abstract  $\downarrow$ Introduction  $\downarrow$ Material (Ingredients)  $\downarrow$ Method Of Preparation  $\downarrow$ Evaluation  $\downarrow$ Result  $\downarrow$ Conclusion  $\downarrow$ References

### Herbal Treatment for Cough:

Now a days, herbal remedies are commonly used for the treatment of cough. also the herbal drugs as well as herbal formulations are playing important role in various types of cough. In present days, therapies like cough suppressants are used for cough. The antitussive agent gives only symptomatic relief. There agents are contraindicated in asthama. They also cause different serious adverse effect which includes respiratory depression, vometting, nausea, sedation and also patients with diminished respiratory reserve. There is recent years, researchers are focusing on the herbal medicine which are having less side effect.

Advantages of Herbal Medicine:



Fig 1:- Advantages of Herbal Medicine

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Disadvantages of Herbal Medicines

 $\Box$  ADR with prescription drugs :

• Herbal medicine cane produce adverse effect if they are mixed with drugs like antidepressants which are tacking regular basis.

• Also herbal medicines having another disadvantage is the risk of self dosing of herbs which is very rare.

□ Patients:

Herbal medicine are the natural product. The effectiveness of herbal medicines is not optimized in laboratory so it taken time to produce effect.

1. Lack of Standardization: Dosage and potency can vary significantly between products and batches, leading to inconsistent results.

2. Limited Scientific Evidence: Many herbal remedies lack robust clinical trials to support their safety and effectiveness.

3. Potential Side Effects: Herbal medicines can cause allergic reactions, digestive issues, or toxicity if taken in high doses or improperly.

4. Interactions with Other Drugs: Some herbs can interact negatively with prescription medications, reducing their effectiveness or increasing the risk of side effects.

5. Delayed Treatment: Relying solely on herbal remedies may delay the diagnosis and treatment of serious medical conditions.

### PROCEDURE:

1. All the required ingredients such as Ashwagandha powder, Tulsi powder, Turmeric, orange oil and honey accurately weighed individually by using digital balance to make 100 ml herbal cough syrup.

2. After weighed then crush all ingredients in the morter pestle.

3. Then ashwagandha, Tulsi, turmeric are ingredients dissolved in water in the separately beaker and heated normally by heating mantle .

4. Then the cool and filtered by filter paper.

5. And then all filtered ingredients are mix in conical flask and add the propyl parabean and orange oil and honey.

6. Then formulation were prepared.

7. The prepared herbal cough syrup was packed into a container/self sealable plastic bottle, labeled and used for further studies.

### MATERIAL AND METHODS :

Following herbal parts are used in the formulation of herbal syrup for treatment of cough.

SR. NO.	INGREDIENT
1.	Tulsi
2.	Ginger
3.	Liquorices
4.	Fennel
5.	Cardamom
6.	Peppermint
7.	Adulsa
8.	Honey
9.	Clove

Table 3:- List of materials

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### Fig 2:- Ingredient



### Formulation of raw materials:

SR.NO	TEST	PROCEDURE
1	Moisture content	Weigh 2gm of sample and take in petridish
		Heat it in the hot air oven at 100c for 1 hr
		Then allowed to coo. Weigh the sample again
2	Determination of ethano	Take macerataed 5gm of air dried, shaken coarsely powdered drug
	extractive value	with 100ml of 95% ethanol in closed flask for 24 hrs.
		Shake it frequently for first 6 hours and then allowed to stand for
		18 hrs.
		Then filter it rapidly (take care for loss of ethanol) 4. Evaporated
		25ml filtrate to dryness in a flat bottomed petridish.
		5.Dry at 105c and wighed.
3	Etermination of water extractive	1.Macerated 5gm air dried drug coarsely powdered with 100ml
	value	chloroform water (2.5ml chloroform in 1000ml wataer) in closed
		flask for 24 hrs.
		Shaken frequently for first 6 hrs.
		3.Allowed to stand for 18 hrs.
		4. Evaporate 25ml of filtrate to dryness in a flat bottomed petridish

Table 4:- Preformulation study of raw materials

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□ Preparation of liquid oral:

The liquid oral is prepared by two methods; first is decoction method and maceration method.

Method of preparation decoction:

5-7 gm of each herbal ingredients  $\downarrow$ Herbs was mixed using 500ml of water  $\downarrow$ Attach reflux condenser and material was boil under carefully by using water bath for 3 hrs.  $\downarrow$ Boil until total volume become one forth part of previous  $\downarrow$ Then liquid was cooled and filtered.

Chart 1:- method of preparation decoction



Fig 3:- Preparation of decoction & extract.

Method of preparation Maceration:

The 35ml, 40ml and 45ml of honey was taken.

1.75gm, 2gm, 2.25gm of ginger mixed with 35ml, 40ml, and 45ml honey in beaker and pack the aluminum foil.

Beaker aloe to stand at room temperature for 24 hrs.

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Chart 2:- method of preparation maceration



Fig 4:- Maceration of ginger with honey

Final herbal cough syrup

To prepared final cough syrup 35ml of macerated ginger with honey add 25ml of decoction was misex slowly by continuous stirring.

↓ Again 40ml and 45ml macerated ginger with honey added 15ml and 20ml of decoction was mixed slowly by continuous stirring.

↓ Herbal cough syrup was prepared and solubility was checked by observing clarity of solution visually.

↓

Chart 3:- method of preparation of final syrup

#### Formulation table :

SR.	INGREDIENT	QUANTITY	USE
NO.			
1.	Tulsi	12-20 leaves	Antitussive
2.	Ginger	2-3 gm	Antitussive
3.	Liquorice	4 gm	Expectorant
4.	Fennel	4 gm	Aromatic, Flavoring agent
5.	Cardamon	3 gm	Aromatic
6.	Pepermint	2 gm	Cough
7.	Adulsa	2-4 gm	Antitussive
8.	Clove	2 gm	Expectorant
9.	Honey	35 %	Base, Viscosity modifies

Table 5:- Formulation table for syrup A





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9429		Volume 5, Issue 3, June 2025			
SR. NO.	INGREDIENT	QUANTITY	USE		
1.	Tulsi	12-20 leaves	Antitussive		
2.	Ginger	2-3 gm	Antitussive		
3.	Liquorice	4 gm	Expectorant		
4.	Fennel	4 gm	Aromatic, Flavoring agent		
5.	Cardamon	3 gm	Aromatic		
6.	Pepermint	2 gm	Cough		
7.	Adulsa	2-4 gm	Antitussive		
8.	Clove	2 gm	Expectorant		
9.	Honey	40 %	Base, Viscosity modifies		
<u> </u>	Ta	ble 6:- Formulation table f	or syrup B		
SR	INGREDIENT	OUANTITY	USE		

			5 1
SR.	INGREDIENT	QUANTITY	USE
NO.			
1.	Tulsi	12-20 leaves	Antitussive
2.	Ginger	2-3 gm	Antitussive
3.	Liquorice	4 gm	Expectorant
4.	Fennel	4 gm	Aromatic, Flavoring agent
5.	Cardamon	3 gm	Aromatic
6.	Pepermint	2 gm	Cough
7.	Adulsa	2-4 gm	Antitussive
8.	Clove	2 gm	Expectorant
9.	Honey	45 %	Base, Viscosity modifies

Table 7:- Formulation table for syrup C

Post formulation evaluation parameter as follows:

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SR NO	TEST	PROCEDURE
1	Colour Examination	<ol> <li>5ml of prepared syrup was taken on a watch glass</li> <li>Watch glass placed against white background in white tube light</li> <li>Colour was observed by naked eyes</li> </ol>
2	Odour Examination	<ol> <li>2 ml of prepared syrup was taken and smelled by individually</li> <li>The time interval between 2 smelling was 2 min. to nullify effect of previous smelling</li> </ol>
3	Taste Examination	<ol> <li>A pinch of final syrup was taken and examined on taste buds of the tounge</li> </ol>
4	pH Determination	<ol> <li>10 ml of prepared syrup taken in 100 ml of volumetric flask</li> <li>Make up volume to 100 ml with distilled water</li> <li>Sonicate for 10 min.</li> <li>pH was measured by using digital pH meter</li> </ol>
5.	Viscosity Determination	<ol> <li>The viscosity of each formulation was determined by using Ostwald's U-tube viscometer</li> </ol>

Table 8:- Post formulation evaluation parameter



Fig.5 Final Product

**RESULT** Pre formulation studies:

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SR.NO	TEST	RESULT
1	Moisture content	1.6
2	Ethanol soluble extractive	11.6
3	Water soluble extractive	12.8

Table 9:- Physicochemical constituents of crude drug

### Post Formulation studies

Formulation	Colour	Odour	Test
A	Yellowish Bron	Aromatic	Slightly Pungent
В	Yellowish Brown	Aromatic	Slightly Pungent
С	Yellowish Brown	Aromatic	Slightly Pungent

Table 10:- Result of Physicochemical parameters of formulated poly herbal cough syrup.

• Colour: Table 6 shows the results obtained for colour of formulated batches of syrup. The color of formulation was found to be Yellowish- Brown for the optimized batch. The colour of the formulation ranges from Yellowish-brown to Dark brown for A, B, C batches respectively.

• Odour: Table 6 shows the results obtained for odour of formulated batches of syrup. The odour of formulation was Aromatic for the A, B, C batches respectively.

• Taste: Table 6 shows the results obtained for taste of formulated batches of syrup. The taste of formulation was Slightly Pungent for A, B, C batches respectively.

Sr. No.	Parameter	A	В	С
1.	рН	6	6.2	6
2.	Viscosity (poise)	0.01323	0.0582	0.03988

Table 11:- Quantitative Evaluation of Formulated Herbal Cough Syrup Dosage Form

• pH: Table 7 shows the results obtained for pH of formulated batches of syrup. The Specific Gravity of formulation was found to be 6.2 for the optimized formulation B. The value was found to be in the range of 6.0 - 6.2 for all three formulations.

• Viscosity: Table 7 shows the results obtained for Viscosity of formulated batches of syrup. The Viscosity of formulation was found to be 0.0582 poise for the optimized formulation B. The value was found to be in the range of 0.0582-0.03988 poise for all three formulations.

### **II. CONCUSION**

The Preformulation studies of all three formulations were within specifications. Also the physiochemical properties of prepared syrup like colour, odour, pH, taste were satisfactory but among the all three formulation is was within the all specification, it has proper concentration of honey as per IP and also a good preservative.

The present study help to develop affective and safe herbal cough syrup with 40% W/V honey as a base of cough syrup.

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### REFERENCES

1. Anu kaushik Vivek, Chauhan and Dr. Sudha, Formulation and Evaluation of Herbal Cough Syrup. European Journal of Pharmaceutical & medical Research, 2016; 3(5): 517-522.

2. Motuma Adimasu Abeshu and Bekesho Geleta, - A Review "Medicinal Uses of Honey ||, Biology and Medicine, (Aligarh) 2016, 8:2.

3. Meenakshi Parihar, Ankit Chouhan, M.S. Harsoliya, J.K.Pathan, S. Banerjee, N.Khan, V.M.Patel, — A Review-Cough & Treatments || , International Journal Of Natural Products Research, May 2011.

4. Farhat Pirjade Mujawar, Manojkumar Patil, Jyotiram Sawale. || Formulation and Evaluation of Herbal Cough Syrup of Echinops Echinatus Roxb Roots ||, International Journal Of Pharmacy & Technology, 09- 06-2016, ISSN: 0975-766X

5. G.Sandhyarani and K. Praveen kumar, Development of herbal syrup. Asian Journal of Pharmaceutical Science & Technology, 2014; 4(2): 101-103.

6. Azwanida NN, || A Review on the Extraction Methods Use in Medicinal Plants, Principle, Strength and Limitation ||, Azwanida, Med Aromat Plants 2015, 4:3.

7. Handa SS, Khanuja SPS, Longo G, Rakesh DD (2008) Extraction Technologies for Medicinal and Aromatic Plants, (1stedn), no. 66. Italy: United Nations Industrial Development Organization and the International Centre for Science and High Technology.

8. Swain Pramod Kumar, Nayak Durga Prasan, || Design, Development & Evaluation of a Poly Herbal Syrup from some herbs used as Energy booster ||, International Journal of Ayurvedic Medicine, 2013, 4(4), 374-378.

9. Hawraa Mehdi Farhan, Hana,a Kadhem Egzar and Eman Hassen Sahap, || Physical and chemical properties of homemade Dates syrup (molasses) from middle Iraq cities ||, International Journal of Scientific and Research Publications, Volume 7, Issue 1, January 2017, ISSN 2250-3153.

10. Akula Nikhil Prashant, Dr. K. V. Subramanyam, Dr. Manoranjan Sahu P. Sai Karthik, T. Madhavi, G. Mounika and Fasiha Tamkanat, —development and evaluation of herbal cough syrup from the root extracts of withania somnifera and glycyrrhiza glabra ||, world journal of pharmacy and pharmaceutical sciences, 14 Sept. 2017, DOI: 10.20959/wjpps201710-10104.

11. Patel Divyakant A, Patel Yogesh K, Shah Paresh B, -Development and evaluation of herbal syrup from Neolamarckia Cadamba (Roxb.) Bosser Leaves  $\parallel$ , International research journal of pharmacy, 2012, 3(9).

12. Priyanka Kantivan Goswami, and Rashmi S Srivastava, -Development and evaluation of herbal syrup from root extract of nothosaerva brachiata & gomphrena celosiodies  $\parallel$ , international journal of research in pharmacy and chemistry, 2016, 6(3), 473-13. 475

14. Sagar Bhanu PS, Zafar R, Panwar R. Herbal drug standardization. The Indian Pharmacist 2005; 4(35):19-22.

15. Quality Control Methods for Medicinal Plant Materials, WHO, Geneva, 1996.

16. DeveshTewari and Manoj Kumar. Formulation and comparative evaluation of different Sitopaladi herbal syrups. Der Pharmacia Lettre, 2014, 6 (2):178-17. 183.

18. Sarah Spiteri Staines. Herbal medicines, adverse effects and drug-herb interactions. Journal of the Malta College of Pharmacy Practice. 2011: 17; 38-42.

19. J.B. Calixto. Efficacy, safety, quality control, marketing and regulatory guidelines for herbal medicines (phytotherapeutic agents). Braz J Med Biol Res (2000) 33: 179-189.

20. Karlsson, J.A. (1996) The role of capsaicin-sensitive Cfibre afferent nerves in the cough reflex. Pulm.Pharmacol. 9, 315–321.

21. Mazzone, S.B. (2003) Sensory pathways for the cough reflex. In Cough: Causes, Mechanisms and Therapy (Chung, K.F. ed.), pp. 161–171.

22. Mohmed Sohel Harsoliya, Mohmed Jamal Sabugar, Patel Vishnu M., Singh sarika and PathanJaved Khan, 2011 —The New Multifunctional Plant Selected Cough Syrup: An Overview || Journal of Pharmacy Research,4(2),411412.

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#### Volume 5, Issue 3, June 2025



23. NeerajChoudhary and Bhupinder Singh Sekhon, -An overview of advances in the standardization of herbal drugs  $\parallel$ , J Pharm Educ Res., 2011; 2(2): 5570.

24. Moore Michael, -Herbal Formulas for Clinic and Home || , Bisbee, AZ 85603, 1995; 3

25. Kalpesh B Vaishnav, || Diagnostic Approach to Cough ||, Supplement to Journal of the Association of Physicians of India, May 2013, Vol. 61.

26. Nancy choi MD, Tim Newman, "All about Coughs and their causes", 2017.

27. Sultana S, Khan A, Safhi M. M and Alhazmi H.A, —Cough Suppressant Herbal Drugs: A Review || , International Journal of Pharmaceutical Science Invention, 2016, 5(5), 15-28.

28. Abdul Aziz, Khan I. A, Aqsa Afza, Munawar S.H, —Formulation and Evaluation of HerbalAntitussive Syrup of Methanolic Extract of Lycopus Europaeus in Mice ||, American Journal of Pharmacy and Health Research, 2013,1(3)

29. Thompson M, Vodicka TA, Blair PS, Buckley DI, Heneghan C, Hay AD, —Duration of symptoms of respiratory tract infections in children: systematic review ||, BMJ, 2013.

30. Ken Harris, -When a cough may be more than just a cough", OSF healthcare, Jan 2021

31. Patil A.G, Mirajakar K J, Savekar P.L, Bugaditkattikar C.V, Shintre S.S, —Formulation and Evaluation of Ginger Macerated Honey Base Herbal Cough Syrup ||, International Journal of Innovative Science and Research Technology, 2020, 5(6): 582-588.

32. Herbycin, Types of Coughs, April,2020

33. Kalpesh B Vaishnav, -Diagnostic Approach to Cough  $\parallel$ , Supplement to Journal of the Association of Physicians of India, 2013, vol. 61





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